**Video Worksheet**

**Monoculture-** It is the deliberate cultivation of only one single crop in a large land area.

**Agronomy**: The scientific study of soil management and crop production, including irrigation and the use of herbicides, pesticides, and fertilizers.

1. What is Leontino Balbo’s profession and which approach to agriculture has brought his company recent success?

* He is a farmer and changed to sugar-beet sugar production.
* **He is an agronomist and transformed his business with a revitalizing approach to agriculture.**
* He is an executive and pursued conventional practices in sugar cane farming with great success.

2. Why did Balbo think that a new ‘cleaner’ approach to sugar cane harvesting was necessary?

|  |
| --- |
| Because they used to need four million liters of water per hour to wash the cane but they can actually use less |

3. Once Balbo had implemented ‘green cane harvesting’, he turned his mind to eliminating chemical fertilizers and pesticides from the production process as well. Why did he care? Why was this important?

|  |
| --- |
| Because green cane harvesting can lower the environmental impact of the production and meanwhile lose the cost of the production. |

4. To find ways of eliminating chemical fertilisers and pesticides, Balbo turned to nature. In what ways can we be inspired by nature in improving our own systems? Can you see any limits to nature’s example?

|  |
| --- |
| By seeing the system as a whole and make it circular by recycling. |

5. How did Balbo’s innovations manage to bring the soil to a fertility class higher than before any agricultural practices started?

* He ensured that the plants received enough water through irrigation systems.
* **He ensured that a specific fungus would remain in the soil even after the harvest.**
* He planted the sugar cane closer to each other so that the roots would build an internet of the soil.
* 6. What does modern agricultural practice mean for Balbo? Would you agree? Why/why not?

|  |
| --- |
| Modern agriculture is to form a circular system to cultivate crops.  I agree because it is really beneficial to ourselves and the environment. |

7. Balbo is proud that his practices have extracted 45,000 tonnes of CO2 from other activities of the economy, making his company not just carbon-neutral but ‘carbon-sync’. How important do you consider such an attitude and practice for the economy as a whole? And for our future?

|  |
| --- |
| It is really important to have such an attitude. If everyone has such an attitude, the environment will improved a great deal and thus provide us with a more comfortable and sustainable future. |

8. How did scientists prove that regenerative and restorative agricultural practices have overturned the scientific paradigm that monocultures are bad for biodiversity?

* They used quantitative indicators counting the number of non-sugar cane plants able to grow around the field.
* **They used so-called biological indicators, looking for the kind of species that occur in and around the sugar cane field that have complex demands on their environment.**
* They used a comparative approach, comparing the number of organisms in the soil in Balbo’s fields to the number in conventional sugar cane farms.

9. From Balbo’s explanation, what did you learn about resilient business models?

What is the danger for business models that are not resilient?

|  |
| --- |
| Because resilient business model uses everything to the greatest value and recycle as much as possible, there are no extra loss and the profit grows larger and larger. It is sustainable for both the business and the environment. |

10. Balbo believes that the biggest obstacle to change is people’s perceptions. Do you agree? Why/Why not?

I agree to some extent. Changing people’s perception is certainly a vital factor for a sustainable future, but what I think is more important and more difficult is to make people take actions. Because many people nowadays have already realized the importance of protecting the environment by recycling, but most of them don’t know what to do to help, or they don’t want to because of profit or personal interests, so how to make people act is really important for me.

|  |
| --- |
|  |